

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO. 95-055  
NPDES NO. CA0037541

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

CITY OF SAN MATEO  
SAN MATEO, SAN MATEO COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter the Board) finds that:

1. The City of San Mateo, hereinafter called the Discharger, submitted a report of waste discharge dated April 14, 1994 for reissuance of NPDES Permit No. CA0037541.
2. The Discharger presently discharges an average dry weather flow of about 10 million gallons per day (mgd) from its treatment plant which has a current dry weather design capacity of 13.6 mgd. The Discharger currently provides secondary treatment during the winter months (October - April) and tertiary-level treatment during the summer months (May - September). Treatment facilities consist of primary clarifiers, aeration tanks, final clarifiers, pressure filters (May - September ), and chlorination and dechlorination. Sludge is thermally treated, dewatered using vacuum filters, and incinerated in multiple hearth furnace, with the ash disposed of in dedicated landfill. This plant treats domestic and commercial wastewater from the City of San Mateo, the City of Foster City, the Town of Hillsborough, and portions of the City of Belmont and unincorporated San Mateo County. The treated wastewater is discharged into the deep water channel of lower San Francisco Bay, a water of the State and United States, at a point approximately 500 feet north of the San Mateo-Haywood Bridge through a submerged diffuser about 3700 feet offshore at a depth of 41 feet below mean lower low water (Latitude 37 deg., 34 min., 50 sec.; longitude 122 deg., 14 min., 45 sec.).
3. The discharge is presently governed by Waste Discharge Requirements Order No. 89-171 which allows discharge into San Francisco Bay.
4. The United States Environmental Protection Agency (EPA) has an antidegradation policy as described in regulation 40 CFR 131.12. EPA guidance to implement 40 CFR 131.12 may require that an antidegradation analysis be made when an increase in wastewater discharge is proposed. An antidegradation policy was also adopted by the

State Water Resources Control Board in Resolution No. 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). It provides conditions under which a change in water quality is allowable.

5. The Board adopted revised Water Quality Control Plan for the San Francisco Basin (Basin Plan) on December 17, 1986. The Basin Plan identifies beneficial uses and water quality objectives for surface waters in the region, as well as effluent limitations and discharge prohibitions intended to protect beneficial uses. This Order implements the plans, policies and provisions of the Board's Basin Plan.
6. The Basin Plan contains water quality objectives for lower San Francisco Bay and contiguous waters. The beneficial uses of lower San Francisco Bay and contiguous waters are:
  - a. Water Contact Recreation
  - b. Non-contact Water Recreation
  - c. Wildlife habitat
  - d. Preservation of Rare and Endangered Species
  - e. Estuarine Habitat
  - f. Fish Migration and Spawning
  - g. Industrial Service Supply
  - h. Shellfish Harvesting
  - i. Navigation
  - j. Commercial and Sport Fishing
7. The Regional Board in Order No. 84-6 revised the Discharger's wastewater treatment requirements from tertiary-level requirements to advanced secondary requirements during the wet season when beneficial uses would not be compromised further than they already are by stormwater runoff.
8. In the early 1980's, the Regional Board's Shellfish Program identified major shellfish beds existing along the San Mateo - Foster City shoreline. During the summers of 1982, 1983, and 1985, some of these beds were opened for direct recreational harvesting. The stringent dry weather effluent limit 2.2 MPN/100 ml (7 day moving median) for coliform organisms was adopted to protect available beneficial uses. This effluent limit provides an ample safety margin for the coliform objective of a median of 70 MPN/100ml for the water of shellfish bed areas.
9. Subsequent studies conducted by the Regional Board and South Bayside System Authority showed that during the wet weather period, contamination and pollution which affect shellfish beds result from non-point sources. Studies also suggested that the effluent total coliform levels of 2.2 MPN/100 ml and 23 MPN/100 ml had no

impact on the receiving waters of shellfish beds which are located more than 1000 yards from the outfall. Due to the stringent effluent total coliform requirement, for many years the discharger has experienced considerable difficulty to operate the disinfection system and dechlorination systems to meet the effluent chlorine residual requirement. According to the discharger, the chlorine residual problems are related to the operation of the pressure filter system during the summer months. The filter system causes flow "spiking" (rapid fluctuation of effluent flow), due to the operation of the filter feed pumps, which are controlled by the level in the wet well. These radical flow changes make automatic chlorination and dechlorination an operation that the controller can not always adequately compensate for. Since 1989, the discharger reported over 35 chlorine residual violations that resulted from the radical flows created by the pressure filter system.

10. In 1992 the Board approved relaxation of the Discharger's summer total coliform effluent limit to 23 MPN per 100 ml. The modified Effluent Limit allows the discharger to reduce chlorine compounds consumption by 150,000 pounds and sulfur dioxide compounds by 75,000 pounds annually. This would also reduce the discharge of chlorinated by products (chlorinated organics), which are potentially harmful to the aquatic organisms. The amendment produces substantial environmental benefits by reducing chemical uses without adversely affecting the water quality.
11. Effluent limitations in this permit are based on the plans, policies, and water quality objectives and criteria of the Basin Plan, Quality Criteria for Water (EPA 440/5-86-001, 1986; Gold Book), Applicable Federal Regulations (40 CFR Parts 122 and 131), the National Toxics Rule (57 FR 60848, 22 December 1992; NTR), and Best Professional Judgement.
12. The Board amended the Basin Plan on October 21, 1992 to adopt a site-specific water quality objective of 4.9 ug/l for copper for San Francisco Bay. The State Board did not approve this amendment on procedural grounds. In the best professional judgment of Regional Board staff, from a technical standpoint, the site-specific objective is currently the best available water quality objective that is protective of the most sensitive designated use of San Francisco Bay waters with respect to copper: habitat for aquatic organisms. The effluent concentration limit for copper in this permit is based on the site-specific objective for copper, which employed the "water effect ratio" approach developed by the EPA. This approach provides a measure of the binding capacity of natural waters (dependent on particulate matter) relative to the binding capacity of reference waters (filtered oceanic water). The study and associated staff analysis are described in a September 25, 1992 staff report entitled "Revised Report on Proposed Amendment to Establish a Site Specific Objective for Copper for San Francisco Bay."

13. In 1993, the Regional Monitoring Program (RMP) found PCB concentrations in water throughout the estuary at levels exceeding the EPA criterion. The EPA criterion indicates the potential for bioaccumulation in fish tissue to levels that exceed their Human Health criteria for a carcinogen risk level of  $10^{-6}$ , when the fish is consumed at a rate exceeding 6.5 grams per day. Concentration of PCBs and other pollutants in fish tissue are being measured in a study currently being conducted by the Regional Board. The Regional Board and the discharger acknowledge that commercially available laboratory techniques do not allow for detection of PCBs or TCDDs in effluent at levels low enough to determine the extent of contribution of these substances by the discharger. Therefore, rather than focusing additional resources on characterizing PCB and TCDD levels in effluent, the discharger is required to participate in the Regional Monitoring Program to further define the level of contamination of fish tissue in the estuary.
14. An Operation and Maintenance Manual is maintained by the Discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, and recommended operating strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, this manual should be kept updated to reflect significant changes in plant facilities or activities.
15. The Discharger has implemented and is maintaining an EPA approved Pretreatment Program for source control and application of pretreatment standards in accordance with Regional Board Order No. 89-179.
16. The City of San Mateo completed the Variability Phase of the chronic toxicity testing program in August 1993, with no pattern of toxicity found.
17. Federal Regulations for stormwater discharges were promulgated by the United States Environmental Protection Agency on November 16, 1990. The regulations [40 Code of Federal Regulations, Parts 122, 123, and 124] require specific categories of industrial activities which discharge storm water associated with industrial activity (industrial storm water) to obtain an NPDES permit and to implement Best Technology Economically Available (BAT) and Best Conventional Pollutant Control Technology (BCT) to control pollutants in industrial storm water discharges. The storm water flows from the wastewater treatment facility process areas are directed to the wastewater treatment plant headworks and are treated along with the wastewater discharged to the treatment plant. These storm water flows constitute all industrial storm water at this facility and consequently this permit regulates all industrial storm water discharge at this facility.

18. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act) pursuant to Section 13389 of the California Water Code.
19. The Discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity to submit their written views and recommendations.
20. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder, shall comply with the following:

**A. DISCHARGE PROHIBITIONS**

1. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited.
2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant is prohibited.
3. The average dry weather flow shall not exceed 13.6 mgd. The average shall be determined every three consecutive dry weather months each year.

**B. EFFLUENT LIMITATIONS**

1(a). During the months of May through September the following effluent limitations shall apply:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>Instan- taneous Maximum</u>
a. Settleable Solid	ml/l-hr	0.1	--	--	0.2
b. BOD <sub>5</sub>	mg/l	20	30	40	--
c. Total Suspended Solids	mg/l	20	30	40	--
d. Oil & Grease	mg/l	10	--	20	--
e. Total Chlorine Residual (1)	mg/l	--	--	--	0.0
f. Turbidity	NTU	15	--	30	--

- 1(b). During the months of October through April, inclusive, the following limitations shall apply:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>Instantaneous Maximum</u>
a. Settleable Solid	ml/l-hr	0.1	--	--	0.2
b. BOD <sub>5</sub>	mg/l	30	45	60	--
c. Total Suspended Solids	mg/l	30	45	60	--
d. Oil & Grease	mg/l	10	--	--	20
e. Total Chlorine Residual (1)	mg/l	--	--	--	0.0
f. Turbidity	NTU	15	--	30	--

- (1) Requirement defined as below the limit of detection in standard test methods.
2. pH: The pH of the effluent shall not be less than 6.5, nor greater than 8.5.
3. Total Coliform Bacteria: The treated wastewater, at some place in the treatment process prior to discharge, shall meet the following limits of bacteriological quality: The moving median value for the Most Probable Number (MPN) of total coliform bacteria in any five (5) consecutive samples shall not exceed 23 MPN/100 ml; and any single sample shall not exceed 240 MPN/100 ml.
4. Effluent Toxicity

#### 4.1 Acute Toxicity

The survival of organisms in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival. The eleven sample median and 90th percentile effluent limitations are defined as follows:

11 sample median: A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit, if one or more of the past ten or less bioassay tests show less than 70 percent survival.

#### 4.2 Chronic Toxicity

The discharge is classified as a deep water discharge. The chronic toxicity effluent limitation is based on a dilution ratio of 10:1.

The combined effluent as discharged, shall meet both of the following chronic toxicity limitations.

- a. an eleven sample median value<sup>1</sup> of 10 TUc<sup>2</sup>; and
- b. a 90 percentile value<sup>3</sup> of 20 TUc<sup>2</sup>.

Footnote:

1. A test sample showing chronic toxicity greater than 10 TUc represents consistent toxicity and a violation of this limitation, if five or more of the past ten or less tests show chronic toxicity greater than 10 TUc.
  2. A TUc equals 100/NOEL. The NOEL is the no observable effect level, determined from IC, EC, or NOEL values. These terms and their usage in determining compliance with the limitations are defined in Attachment A of this Order. The NOEL shall be based on a critical life stage test using the most sensitive test species as specified, compliance shall be based on the maximum TUc value for the discharge sample based on a comparison of TUc values obtain through concurrent testing of the two species.
  3. A test sample showing chronic toxicity greater than 20 TUc represents consistent toxicity and a violation of this limitation if one or more of the past ten or less samples shows toxicity greater than 20 TUc.
5. 85 Percent Removal, BOD and TSS: The arithmetic mean of the biochemical oxygen demand (five-day, 20°C) and total suspended solids values, by weight, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period.

6. Representative samples of the effluent E-001 shall not exceed the following limits:

6.1 Limits for Toxic Pollutants

The effluent shall not exceed the following limits (a,e):

[Units for all limits are in ug/l]

<u>Constituent</u>	<u>Monthly Average(b)</u>	<u>Daily Average(b)</u>
Arsenic		200
Cadmium		30
Chromium (VI) (c)		110
Copper		37
Lead(g)		53
Mercury	0.21	1
Nickel (f)		65
Selenium(f)		50
Silver		23
Zinc(f)		580
Cyanide(d,e)		10
Phenols		500

Footnotes:

- a. As, Cd, Cr, and Zn are based on plant performance, all other limits are based on marine water quality objectives, and are intended to be achieved through secondary treatment and, as necessary, pretreatment and source control. Hg is based on criteria for human health.
- b. Limits apply to the average concentration of all samples collected during the averaging period (Daily = 24-hour period; Monthly = Calendar month).
- c. The Discharger may meet this limit as total chromium.
- d. The Discharger may demonstrate compliance with this limitation by measurement of weak acid dissociable cyanide.
- e. All analyses shall be performed using current EPA Methods, as specified in 40 CFR 136 (40 CFR 122.44(i)).
- f. Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24- hour composite samples shall be reported, as well as the average of the four samples.

C. RECEIVING WATER LIMITATIONS

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

- a. Floating, suspended, or deposited macroscopic particulate matter or foam;
  - b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
  - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
  - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
  - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on wildlife, waterfowl, or aquatic biota, or which render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State at any place within one foot of the water surface:

- a. Dissolved Oxygen: 5.0 mg/l, minimum

The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.

- b. Dissolved Sulfide 0.1 mg/l, maximum
- c. pH: Variation from normal ambient pH by more than 0.5 pH units.
- d. Un-ionized Ammonia: 0.025 mg/l as N, annual median; 0.16 mg/l as N, maximum.
- e. Nutrients: Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

D. SLUDGE HANDLING AND DISPOSAL REQUIREMENTS

1. All sludge generated by the discharger must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 CFR Part 503 and 40 CFR Part 257. If the discharger desires to dispose of sludge by a different method, a request for permit modification must be submitted to the USEPA 180 days before start-up of the alternative disposal practice. All the requirements in 40 CFR 503.7 and 40 CFR 257 are enforceable by USEPA whether or not they are stated in an NPDES permit or other permit issued to the discharger.
2. Sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
3. Duty to mitigate: The discharger shall take all reasonable steps to prevent or minimize any sludge use or disposal which has a likelihood of adversely affecting human health or the environment.
4. The discharge of sewage sludge shall not cause waste material to be in a position where it is, or can be carried from the sludge treatment and storage site and deposited in the waters of the State.
5. The sludge treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the temporary storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.
6. The discharger shall submit an annual report to the USEPA and the Board containing monitoring results and pathogen and vector attraction reduction requirements as specified by 40 CFR 503, postmarked February 19 of each year, for the period covering the previous calendar year.
7. Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR 258. In the annual self-monitoring report, the discharger shall include the amount of sludge disposed of, and the landfill(s) to which it was sent.
8. Permanent on-site sludge storage or disposal activities are not authorized by this permit. A report of Waste Discharge shall be filed and the site brought into compliance with all applicable regulations prior to commencement of any such activity by the discharger.

E. PROVISIONS

1. Requirements prescribed by this order supersede the requirements prescribed by Order No. 89-171. Order No. 89-171 is hereby rescinded.
2. Where concentration limitations in mg/l or ug/l are contained in this Permit, the following Mass Emission Limitations shall also apply:

(Mass Emission Limit in lbs/day) = (Concentration Limit in mg/l) x Actual Flow in million gallons per day averaged over the time interval to which the limit applies) x 8.34 (conversion factor).

3. Effluent Toxicity

Acute Toxicity

Compliance with the acute toxicity limitation in effluent limitation B.4.1 of this order shall be evaluated by measuring survival of test fishes exposed to undiluted effluent for 96 hours. Each fish species represents a single sample. The toxicity tests will be performed according to protocols approved by the U.S. EPA or State Board or published by the American Society for Testing and Material (ASTM) or American Public Health Association. Two fish species will be tested concurrently. These shall be the most sensitive two species determined from concurrent screening(s) of the following species: three-spine stickleback, rainbow trout and fathead minnow. If concurrent screenings have been conducted prior to this permit reissuance, the existing data may be submitted to the Board. If such information is found to meet the requirements of the Basin Plan, further screenings would not be required.

The Regional Board may consider allowing compliance monitoring with only one (the most sensitive, if known) fish species, if the following condition is met: the discharger can document that the acute toxicity limitation, specified above, has not been exceeded during the previous three years, or that acute toxicity has been observed in only one of two fish species.

Chronic Toxicity

The discharger shall comply with effluent limitations specified in Effluent Limitations 4.2 immediately upon adoption of this Order.

4. The discharger shall submit a technical report acceptable to the Executive Officer summarizing the results of a minimum of six (6) effluent sample analyses for the constituents listed in the Self Monitoring Report---Table 2 (three in wet season, three in dry season), with the exception of TCDD equivalents [dioxin] for which three (3) analyses shall be sufficient). The report shall include the limit of quantitation (LOQ), method detection limit (MDL) and practical quantification limit (PQL) achieved at the discharger laboratory and an evaluation of compliance with the effluent limitations for each constituent. For each constituent, the LOQ, MDL, and PQL should be less than the effluent limit, where reasonable and technically feasible. For constituents analyzed outside of the discharger laboratory, MDLs and PQLs should be provided to the discharger by outside laboratories, and included in this technical report. The technical report shall contain recommendations on effluent sampling and analysis, both with respect to type and frequency of analysis. This NPDES permit shall be subsequently modified to include effluent sampling for the subject constituents.
5. The discharger shall conduct a two year wet weather study of shoreline impacts due to operating at an effluent limit of 240 MPN/100 ml coliform median value. After review of the study, the Board may modify the current moving median value for the MPN of total coliform in any five (5) consecutive effluent samples of 23 MPN/100 ml to 240 MPN/100 ml for the wet weather condition.
6. The Board may modify, or revoke and reissue, this Order and Permit if present or future investigations demonstrate that the discharges governed by this Order are causing or significantly contributing to adverse impacts on water quality and/or beneficial uses of the receiving waters.
7. The Discharger shall review, and update as necessary, its Operations and Maintenance Manual, annually, or within 90 days of completion of any significant facility or process changes. The Discharger shall submit to the Board, by April 15th of each year, a letter describing the results of the review process including an estimated time schedule for completion of any revisions determined necessary, and a description or copy of any completed revisions.
8. Annually, the Discharger shall review and update as necessary, its contingency plan as required by Board Resolution No. 74-10. The Discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or implement a contingency plan will be the basis for considering such discharge a willful and negligent violation of this order pursuant to Section 13387 of the California Water code. Plan revisions, or a letter stating that no changes are needed, shall be submitted to the Board by April 15 of each year.

9. The Discharger shall comply with all sections of this order immediately upon adoption.
10. The Discharger shall comply with the Self-Monitoring Program for this order, as adopted by the Board and as may be amended by the Executive Officer.
11. The Discharger shall comply with all applicable items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated December, 1986.
12. The discharger shall implement and enforce its approved pretreatment program in accordance with Board Order 89-179 and its amendments thereafter. The discharger's responsibilities include, but are not limited to;
  - a. Enforcement of National Pretreatment Standards (e.g., prohibited discharges, Categorical Standard, local limits) in accordance with 40 CFR 403.5 and Section 307 (b) and (c) of the Clean Water Act.
  - b. Implementation of the pretreatment program in accordance with legal authorities, policies procedures, and financial provisions described in the General Pretreatment regulations (40 CFR 403) and the Discharger's approved pretreatment program including subsequent modifications to the program.
  - c. Submission of annual and quarterly reports to EPA and the State as described in Board Order 89-179, and its amendments thereafter.
13. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator, EPA, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.
14. This order expires on March 15, 2000. The Discharger must file a Report of Waste Discharge (Permit application) in accordance with Title 23, Chapter 3, Subchapter 9 of the California Code of Regulations not later than 180 days in advance of such expiration date, as application for issuance of new waste discharge requirements.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on March 15, 1995.



STEVEN R. RITCHIE  
Executive Officer

Attachments:

- A. Map of Wastewater Facilities and Effluent Discharge Locations
- B. Self-Monitoring Program
- C. Standard Provisions and Reporting Requirements, August 1993
- D. Resolution No. 74-10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM  
FOR

CITY OF SAN MATEO  
SAN MATEO  
SAN MATEO COUNTY

NPDES NO CA. 0037541  
ORDER NO. 95-055

CONSIST OF

PART A, dated August 1993

AND

PART B

## PART B

### CITY OF SAN MATEO

#### I. DESCRIPTION OF SAMPLING STATIONS

##### A. INFLUENT AND INTAKE

Station	Description
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present, preceding any phase of treatment, and exclusive of any return flows or process sidestreams.

##### B. EFFLUENT

Station	Description
E-001	At any point in the treatment facilities between the point of discharge and the point at which all waste from the treatment plant is present following dechlorination.
E-001-D	At any point in the treatment facilities at which point adequate contact with the disinfectant is assured.

##### C. OVERFLOW AND BYPASSES

Station	Description
OV-1	Bypass or overflows from manholes, pump stations, or collection systems.

REPORTING - Shall be submitted monthly and include date, time, quantity, and period of each overflow or bypass and measures taken or planned to prevent future occurrences (see Part A, Section G.2)

#### II. SCHEDULE OF SAMPLING, ANALYSIS, AND OBSERVATIONS

The schedule of sampling, analysis, and observations shall be that given as Table I.

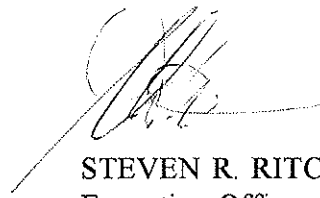
#### III. REPORTING REQUIREMENTS

1. General Reporting Requirements are described in Section C of this Board's "Standard Provisions and Reporting Requirements", dated August 1993.

2. Self-Monitoring Reports for each calendar month shall be submitted monthly, by the twenty second day of the following month. The required contents of these reports are described in Section F.4 of Part A.
3. An Annual Report for each calendar year shall be submitted to the Board by February 15th of the following year. The required contents of the annual report are described in Section F.5 of Part A.
4. Any overflow and/or bypass of wastewater in excess of 1,000 gallons, or significant non-compliance incident that may endanger health or the environment, shall be reported according to the Sections F.1 and F.2 of Part A.

I, Steven R. Ritchies, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 89-171.
2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger and revisions will be ordered by the Executive Officer.



STEVEN R. RITCHIE  
Executive Officer

Effective Date: 3/15/95

Attachments:

Table I and II and Footnotes  
Part A, Dated: August 1993  
Location Map

## FOOTNOTES

1. During any day when bypassing occurs from any treatment unit(s) in the plant or to the emergency outfall, the monitoring program for the effluent and any nearshore discharge shall include the following in addition to the above schedule for sampling, measurement and analyses:
  - a. Composite sample for BOD and Total Suspended Solids (unless regular 24-hour composite samples are available, sampling shall consist of one grab sample during the first two hours of bypassing and grab samples every four hours afterward for the duration of the bypass. The grab samples will be combined on a flow-proportioned basis and analyzed as a composite sample.)
  - b. Grab samples for Total Coliform, Settleable Matter, Oil and Grease, and Chlorine Residual (continuous or every two hours).
  - c. Continuous monitoring of flow.
2. The twice per month effluent oil and grease sampling shall consist of one grab sample taken at peak flow. The other effluent oil and grease value shall be determined by 3 grab samples taken at 8 hour intervals during the sampling day with each grab being collected in a glass container and analyzed separately. Results shall be expressed as a weighted average of the 3 values, based upon the instantaneous flow rates occurring at the time of each grab sample. Only the weighted average of the 3 values will be used to determine mass loading to the Bay. If the plant is not staffed 24 hours per day or if the discharge does not occur continuously, then the three grab samples may be taken at approximately equal intervals during the period that the plant is staffed or during the period that discharge is made.

In the event that sampling for oil and grease once every two weeks or less frequently shows an apparent violation of the waste discharge permit monthly average limitation (considering the results of one or two day's sampling as a monthly average), then the sampling frequency shall be increased to weekly so that a true monthly average can be computed and compliance can be determined.
3. Grab samples shall be taken on day(s) of composite sampling.
4. If any sample is in violation of limits, sampling shall be increased for that parameter to weekly until compliance is demonstrated in two successive samples.

5. Data shall be reported using forms provided or approved equivalent. Chlorine residual analyzers shall be calibrated against grab samples as frequently as necessary to maintain accurate control and reliable operation. If an effluent violation is detected, grab samples shall be taken every 30 minutes until compliance is achieved.
6. Compliance with the effluent toxicity requirement shall be determined using two test species in parallel flow through bioassays. One shall be three-spine stickleback, and the other shall be either rainbow trout or fathead minnow.
7. These parameters shall be tested for on the same sample(s) used for the bioassay (s) prior to starting the flow-through bioassay(s) and at intervals of 24, 48, 72, and 96 hours after starting the flow-through bioassay(s).
8. Daily records shall be kept of the quantity and solids content of dewatered sludge disposed of and the location of disposal.
9. For sampling frequency refer to Provision #4 of this permit.

Order No.

**TABLE 1**  
**SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS(1)**

(City of San Mateo Water Pollution Control Plant)

Sampling Station	A-001	E-001			E-001-D			All OV Sta.
Type of Sample	C-24	G(3)	C-24(3)	Cont.	G(3)	C-24	Cont.	O(10)
Flow Rate (mgd)	D			D				
BOD, 5-day, 20 C (mg/L & kg/day)	3/W		3/W					
Chlorine Residual & Dosage (mg/L & kg/day)		H, or Cont. (5)			H, or Cont. (5)			
Settleable Matter (mg/L-hr. & cu. ft./day)		D						
Total Suspended Matter (mg/L & kg/day)	3/W		D					
Oil and Grease (mg/L & kg/day)								
Coliform (Total or Fecal) (MPN/100ml) per req't					5/W			
Fish Toxicity 96-hr. Flow-thru (6) (%survival in undiluted waste)				M				
Ammonia-N & Un-ionized NH <sub>4</sub> -H (mg/L & kg/day)				(7) M				E
Nitrate Nitrogen (mg/L & kg/day)								
Nitrite Nitrogen (mg/L & kg/day)								

Order No.

TABLE 1 (continued)  
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS(1)

(City of San Mateo Water Pollution Control Plant)

Sampling Station	A-001	E-001			E-001-D			All OV Sta.
Type of Sample		G(3)	C-24	Cont.	G(3)	C-24	Cont.	O(10)
Turbidity, (NTU)			D					E
pH (units)		D		M(7)				
Dissolved Oxygen (mg/L and % Saturation)		D		M(7)				E
Temperature ( C )		D		M(7)				
Apparent Color								
Arsenic (mg/L & kg/day)			M					
Cadmium (mg/L & kg/day)			M					
Chromium (mg/L & kg/day)			M					
Copper (mg/L & kg/day)			M					
Cyanide (mg/L & kg/day)			M					
Silver (mg/L & kg/day)			M					
Lead (mg/L & kg/day)			M					E
Mercury (mg/L & kg/day)			M					
Nickel (mg/L & kg/day)			M					
Zinc (mg/L & kg/day)			M					
Selenium			M					
All Applicable Standard Observations								E
Constituents Listed in Table II			(9)					

# LEGEND FOR TABLE

## TYPES OF SAMPLES

- G = grab sample
- C-24 = composite sample - 24-hour
- Cont. = Continuous sampling
- O = Observation

## TYPES OF STATIONS

- A = treatment facility influent station
- E = waste effluent stations
- C = receiving water stations
- P = treatment facilities perimeter stations

## FREQUENCY OF SAMPLE

- E = each occurrence
- H = once each hour
- D = once each day
- W = once each week
- Y = once each year
- M = once each month

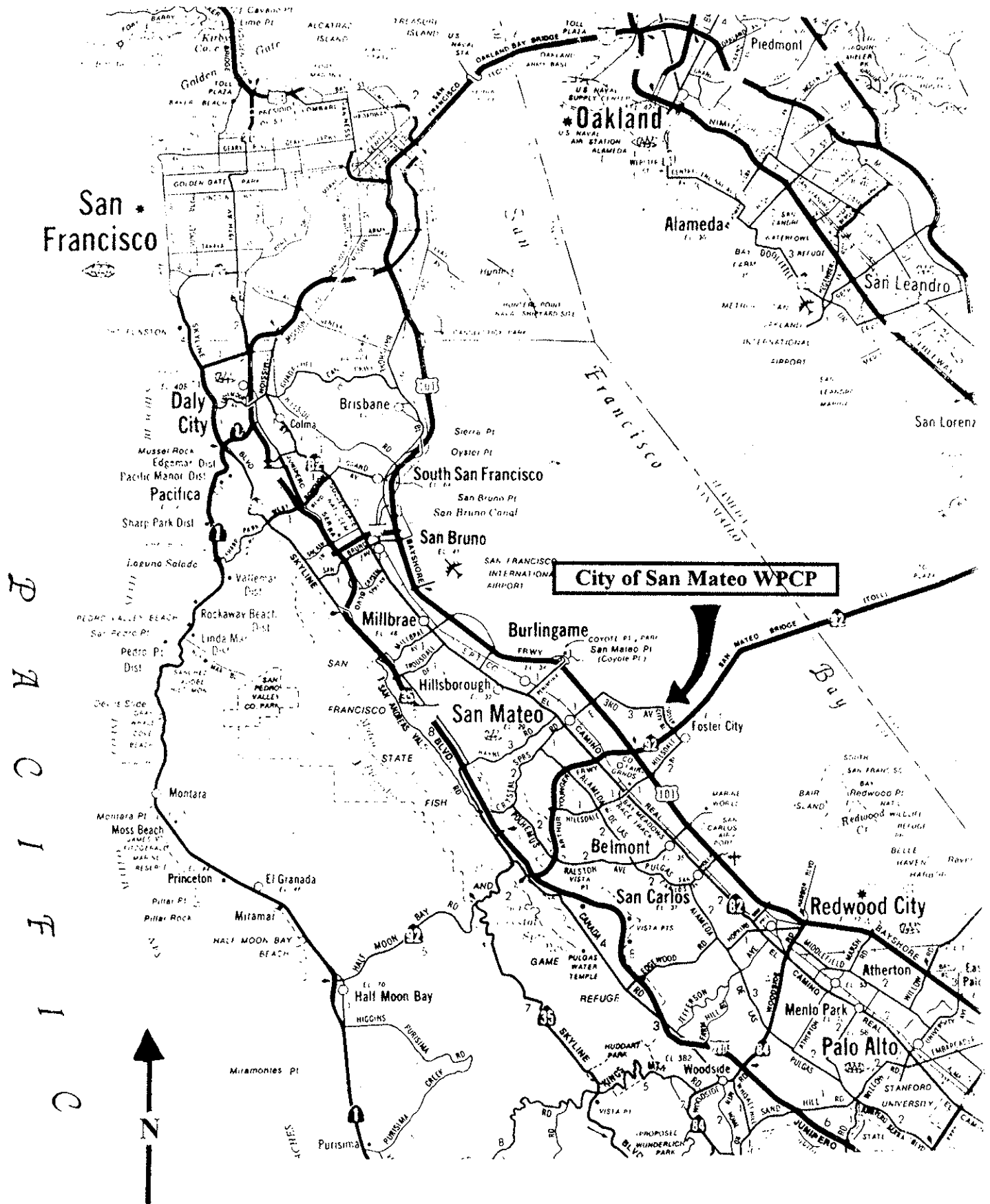
- 2/H = twice per hour
- 2/W = 2 days per week
- 5/W = 5 days per week
- 2/M = 2 days per month
- 2/Y = once in March and  
once in September

- 2H = every 2 hours
- 2D = every 2 days
- 2W = every 2 weeks
- 3M = every 3 months
- Cont. = continuous

**TABLE II: Toxic Pollutant Monitoring List for the City of San Mateo**

**Constituent**

1,2 Dichlorobenzene  
1,3 Dichlorobenzene  
1,4 Dichlorobenzene  
2,4,6 Trichlorophenol  
Aldrin  
A-BHC  
Benzene  
B-BHC  
Chlordane  
Chloroform  
DDT  
Dichloromethane  
Dieldrin  
Endosulfan  
Endrin  
Fluoranthene  
G-BHC (Lindane)  
Halomethanes  
Heptachlor  
Heptachlor Epoxide  
Hexachlorobenzene  
PCBS (Total)  
Pentachlorophenol  
TCDD Equivalents  
Toluene  
Toxaphene  
Tributyltin



Location Map: City of San Mateo  
Water Pollution Control Plant